THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDWARD E. COBB,
SIMON A.J. HOLDSWORTH,
IAIN S.C. HOUSTON,
and STANLEY A. SMITH

Appeal No. 1997-3429
Application 08/307,212[1]

ON BRIEF

Before KRASS, BARRETT, and GROSS, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

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[1] Application for patent filed September 16, 1994, entitled "System For Building Optimal Commit Trees In A Distributed Transaction Processing System."

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1-8.

We reverse.

BACKGROUND

The disclosed invention is directed to a system and method for reducing message traffic during a two phase commitment protocol in a distributed transaction processing system. Only subordinate coordinators that manage modifiable or recoverable resources (resources that are not read-only) dynamically register with the transaction coordinator, which minimizes the size of the commit tree thereby minimizing the number of messages transmitted during commitment processing.

Claim 1 is reproduced below.

> 1. A method for coordinating resource modification transaction requests to reduce message traffic in a computer implemented transaction processing system, the transaction processing system operating on one or more processors each having a plurality of resources that can be changed by said transaction processing system, the method comprising the steps of:
>
> receiving a transaction request to modify one or more of said plurality of resources and assigning said transaction a global identifier;

creating a first coordinator for controlling modification of said one or more resources;

importing said transaction request to a plurality of subordinate transaction manager domains containing resources, said domains being organized as a hierarchy of superior and subordinate transaction manager domains, by creating a subordinate coordinator for each of said domains for controlling modification of said one or more resources in said domain, and encapsulating said global identifier, and a reference to a superior domain to which the subordinate domain is hierarchically related;

dynamically registering said subordinate coordinators with the coordinator of said superior domain only when the subordinate coordinator is coordinating resources that are modifiable by a transaction;

sending a [sic] transaction messages from superior coordinators only to registered, directly subordinate coordinators, thereby reducing message traffic.

The Examiner relies on the following prior art:

Lampson et al. (Lampson) 5,335,343 August 2, 1994
Johnson et al. (Johnson) 5,390,302 February 14, 1995
(filed May 13, 1993)

Claims 1-8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Johnson and Lampson.

We refer to the Final Rejection (Paper No. 8) (pages referred to as "FR__") and the Examiner's Answer (Paper

No. 14) (pages referred to as "EA__") for a statement of the Examiner's position and to the Appeal Brief (Paper No. 12) (pages referred to as "Br__") for a statement of Appellants' arguments thereagainst.

OPINION

The claims are grouped to stand or fall together. Method claim 1 is analyzed as representative.

Appellants argue that two differences exist between the subject matter of claim 1 and the prior art of Johnson and Lampson: (1) "dynamically registering said subordinate coordinators with the coordinator of said superior domain only when the subordinate coordinator is coordinating resources that are modifiable by a transaction"; and (2) "sending a [sic] transaction messages from superior coordinators only to registered, directly subordinate coordinators, thereby reducing message traffic."

The Examiner admits that "Johnson does not state that messages are sent to only subordinate coordinators with modified [sic, modifiable] resources" (FR3; EA3) and, thus, appears to agree that Johnson does not teach the two

limitations. The best statement of the Examiner's position is as follows (EA5-6):

> Lampson et al shows [sic] a subordinate dynamically registering itself with a coordinator by sending a read vote (col. 9 line [sic] 64-65). Lampson states "the subordinate who is **now known** to the coordinator as "read-only" does not need to be sent a "commit" or "abort" message by the coordinator (col. 10 lines 2-6). The examiner submits that sending a vote is dynamic and the subordinate being known (or being registered, since a computer cannot know) by the coordinator is dynamic. This registration eliminates further messages.

Appellants argue (Br12):

> Lampson *et al* eliminate "commit" messages to subordinates who respond to a "prepare" message with a "read" response. This is not dynamic registration. In the present invention, a subordinate that is not registered is not even sent the "prepare" message. . . . The subordinate coordinator of the present invention is dynamically registered only when an exported transaction is identified as able to modify resources controlled by that subordinate.

Lampson does not disclose or suggest the claimed differences. While we agree with the Examiner that the "Read" vote causes dynamic registration of the subordinate as "read-only," this is contrary to the express claim language. Claim 1 recites "dynamically registering said subordinate coordinators with the coordinator of said superior domain only when the subordinate coordinator is coordinating resources that are modifiable by a transaction"

(emphasis added). That is, when the subordinate is coordinating "read-only" resources (resources that are not modifiable by a transaction), there is no dynamic registration and no message should be sent in response to the "Prepare" message to cause registration.

Once the subordinate in Lampson is registered as "read-only," no "commit" or "abort" message is sent to that subordinate. This is contrary to the limitation of "sending a [sic] transaction messages from superior coordinators only to registered, directly subordinate coordinators, thereby reducing message traffic" because the "read-only" subordinate has registered according to the Examiner's interpretation and yet is not sent any messages. While the result in Lampson is similar to the disclosed invention in that "read-only" subordinates are not sent certain messages, the claimed protocol is different. There is no need for the coordinator to keep track of "read-only" subordinates in the claimed method because "read-only" subordinates are never registered.

For the reason stated above, we conclude that the Examiner has failed to establish a prima facie case of obviousness. The rejection of claims 1-8 is reversed.

REVERSED

ERROL A. KRASS Administrative Patent Judge	)	
LEE E. BARRETT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ANITA PELLMAN GROSS Administrative Patent Judge	)	

Mark S. Walker
IBM CORPORATION
Intellectual Property Law Department
Internal Zip 4054
11400 Burnet Road
Austin, TX 78758